A study of visitor-sector employment and income in the Foothills Model Forest

A.M. Wellstead, M.N. Patriquin, and W.A. White

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foothills

Natural Resources Canada
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La forêt modèle Foothills est un partenariat extraordinaire devoué à fournir des solutions pratiques envers la gestion durable de nos forêts.

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ABSTRACT

This report presents the results of a study of employment in the "visitor sector" of the Foothills Model Forest (FMF). A survey and analytical procedure were developed as a means of quantifying the contribution of this sector to the regional economy. The survey was distributed to all 387 visitor-related and visitor-driven businesses in the FMF. The survey responses (from 260 businesses) were analyzed for each major town (Hinton and Jasper) and for each industry in the visitor sector (tours and transportation, car repair and service stations, retail, restaurants and hotels, and other). The visitor sector was compared with the resource sectors of the FMF in terms of numbers of employees and contribution to the total FMF wage bill. The analysis suggests that the visitor sector is the largest employer in the region. Nonetheless, the economic contribution of the visitor sector in terms of total and average weekly wages is relatively small.

RÉSUMÉ

Le présent rapport expose les résultats d'une étude de l'emploi dans le « secteur touristique » de la forêt modèle de Foothills (FMF). Un questionnaire d'enquête et une méthode d'analyse ont été mis au point pour quantifier la contribution de ce secteur à l'économie régionale. Le questionnaire a été distribué à 387entreprises à vocation touristique de la FMF. Les réponses reçues (de 260 entreprises) ont été analysées en regard de chaque ville principale (Hinton et Jasper) et de chaque type d'industrie du secteur touristique (visites guidées et transport, ateliers de réparation automobile et stations-service, magasins de détail, restaurants et hôtels, et autres). Le nombre d'employés et la contribution à la masse salariale totale de la FMF ont été comparés pour le secteur touristique et les secteurs des ressources naturelles de la FMF. D'après les résultats de l'analyse, le secteur touristique est le plus important employeur de la région. Néanmoins, la contribution économique du secteur touristique est relativement faible en termes de salaires hebdomadaires totaux et moyens.

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INTRODUCTION

The provision of goods and services to visitors is a major sector contributing to the overall economy in the Foothills Model Forest (FMF). The visitor sector includes those businesses that cater to people seeking pleasure and recreation, work crews, business travelers, and convention travelers. For an overview of the FMF visitor sector, see Wellstead et al. (2001). The visitor sector is the third largest sector in the FMF (in terms of revenue), trailing only the forestry and mining sectors. Recently, Wellstead et al. (2001) estimated that visitors spent over $316 million in the region in 1997. All indications are that this sector will continue to grow, especially outside Jasper National Park. In addition to the economic input provided by visitor expenditures, this sector is also a source of employment for many local residents. The potential to create employment for rural residents by increasing the numbers of visitors to resource-dependent regions such as the FMF has led governments and local communities to intensify tourist-related development (Duffield 1982; Fleming and Toepper 1990; Biggs 1994). For example, local government agencies along with other stakeholders have been considering the development of tourism nodes along the West Yellowhead Corridor between Obed Lake and the entrance to Jasper National Park. Recently, a number of limits to growth have been proposed for Jasper National Park. As a result, Hinton is experiencing an increase in the number of visitor-related businesses, particularly restaurants and hotels. Understanding visitor-related employment is important for in-depth socioeconomic modeling. It helps to identify industrial linkages within an economy, which are important for making inferences about that economy and for making forecasts and regional comparisons (Fleming and Toepper 1990; Biggs 1994).

Despite its importance, very little is known of the contribution of visitor-related employment to national, provincial, and especially local economies. In this study, we aimed to develop a method for quantifying and analyzing the contribution of the visitor sector to the FMF economy. We also wanted to understand the relative importance of visitor-related employment in this resource-dependent area.

There are two key challenges associated with any visitor-related study. First, many studies examine the impact of "tourism", but each has its own definition of this term, according to the number of nights spent away from home, the distance traveled from home, the purpose of the trip, or some combination of these three factors. To overcome the many ambiguities surrounding a definition of tourism, we chose to focus on all types of visits to the FMF. Counting visitors is a broader measure than assessing the impact of tourists alone. In addition to visitors who come to the FMF for pleasure and recreation, others visit for business, conventions, special events, or as part of work crews, and yet others are simply passing through, stopping only for food or gas. We examined this group collectively because they all have the same type of impact on the region's economy and employment, because in all cases people from outside the region are spending money within the FMF.

The second and more serious problem is the absence of accurate, regional visitor-related employment data. It is difficult to differentiate expenditures by visitors from those of local residents in the service and transportation industries. We overcame this challenge by surveying as many visitor-related businesses in the FMF as possible to determine the number and type of employees and their wage and salary contributions to the region's economy.

The following section reviews past studies that have attempted to measure visitor or tourism sector employment. The third section outlines the methods used to collect detailed regional data on employment and wages in the visitor sector. The results of the survey and our analysis, including employment ratios, employment levels, and wages, are presented in the fourth section. The discussion section includes our conclusions, limitations of the study, and areas for future research.

PREVIOUS STUDIES

A number of economic studies have attempted to measure the significance of visitor-related employment. These studies have highlighted three aspects of this sector. First, tourism-related jobs, especially in resource-dependent regions, are characterized by low wages. Therefore, in addition to the number of jobs, the quality of visitor-related employment must be examined. Second, regional data are not available, which means that researchers must undertake collection of primary data. Third, and related to the second point, the approaches to collecting data vary depending on the objective and on time and cost constraints.

Past studies have emphasized that tourism development is a significant and attractive source of employment and employment income for rural residents (California Division of Tourism 1974; Duffield 1982; Biggs 1994). For example, in areas that lack diversification, where local residents are reluctant to migrate, the opportunity cost of tourism investment is low (Duffield 1982). Duffield (1982) criticized this assumption, arguing that although economic impact studies of tourism have produced statistics to illustrate the benefit of employment potential, they have often ignored the poor quality of the jobs created and have by assumed that these jobs are attractive to prospective employees. He concluded that in order to fully examine employment, the analysis must determine the nature of the employment (e.g., its permanence or seasonality, wages earned, and level of employment (full-time or part-time). Such information is also required to determine full-time equivalence in order to standardize employment data (Biggs 1994). Standardization of employment data allows easy comparisons between regions and industries.

Biggs (1994) measured rural tourism employment according to a national tourism employment estimate for Canada. He argued that labor-saving techniques in primary commodity production, along with other economic factors, have stunted employment growth in Canada's rural areas. As a result, tourism development has been regarded as a potential tool for job creation in these regions. Biggs estimated employment in tourism by first identifying industries (determined from 1980 SIC employment codes) in which a significant component of business activity is directly attributable to tourism. He then classified these industries as tourism-driven or tourism-related. Tourism-driven industries are those dependent on tourism for their survival (such as accommodation, air transport, and travel services), whereas tourism-related industries (such as food services, taverns, bars, nightclubs, amusement and recreation, and auto leasing) are less reliant on tourist dollars. To determine the level of tourism employment, a tourism ratio (the percentage of employee time necessary to respond to the needs of tourists) was developed from proxies obtained from various data sources (e.g., the percentage of revenues derived from passenger air transport receipts and the national proportion of total food and drink obtained from establishments outside the community of residence). For example, total employment in the accommodation industry in 1991 was estimated at 168 000, with a tourism ratio of 86%, and the employment of 144 000 people was attributable to tourism. However, Biggs questioned the appropriateness of using national-level ratios to estimate rural, local-level tourism employment.

Another method used by Biggs to compare the regional distribution of employment in tourism industries was the location quotient, a measure of relative concentration or specialization used to designate whether employment is basic or nonbasic. Workers within the norm established by provincial or national averages are assumed to satisfy local demand. That is, they are part of the nonbasic sectors. Workers in excess of the provincial average are deemed basic. The quotient is calculated as follows:

$$LQ_j^i = \frac{(E_j^i / E_j^T)}{(E_P^i / E_P^T)}$$

where E = workforce,
i = sector,
j = community,
T = total, and
P = province.

For example, if a province (*P*) has a total workforce (*T*) of 1 million and employment of 100 000 in sector *i*, then community *j* with 10 000 workers should employ 1 000 workers in its sector *i* to meet local needs. If community *j* has 3 000 workers in sector *i*, then LQ is 3. See Jagger et al. (1998) for a detailed discussion of location quotients. Biggs found that tourism-driven businesses in "northern hinterland regions" had a location quotient of 189, but tourism-related businesses had a location quotient of only 87. As a result, the overall tourism industry location quotient for all "northern hinterland regions" was 108. Biggs also found that, with the exception of the travel and transportation sectors, tourism industries in the northern hinterland regions had earnings that ranged from one-third to two-thirds of the total industry average.

Although Biggs (1994) concluded that attempts to apply the national estimate of tourism employment to regions were inappropriate, he drew three interesting conclusions from existing census data with respect to regions specializing in tourism. First, relative to other rural and remote areas in Canada, tourism-specialized census divisions (e.g., Jasper National Park) had higher per capita incomes and lower unemployment rates. Second, only 2 of the 10 identified tourism-specialized census divisions had higher per capita incomes than the national average. Third, there were serious gaps in the available data (i.e., tourism employment data was not available by census region) that limited the scope of study and reduced the possibility for further meaningful analysis.

Approaches to measuring visitor-related employment vary depending upon the type of primary data and the methods used to collect them (Fleming and Toepper 1990). Two methods have traditionally been used to derive regional data with respect to tourism employment. The first is primary data collection in the form of surveys of either travelers or the operators of visitor-related businesses (e.g., California Division of Tourism 1974). However, surveys of operators may have limited reliability if the operators cannot accurately estimate the percentages of travelers and local residents who purchase goods and services (Fleming and Toepper 1990). In addition, the choice of the appropriate medium for the survey depends on the sample population, the complexity of the survey, and budget constraints. In general, face-to-face surveys have the highest response rates and the greatest costs whereas mail surveys tend to be the least expensive but have the lowest response rates (Fleming and Toepper 1990).

A second common method for obtaining regional tourism data is to review expenditure, payroll, employment, and tax data collected by the government at a national level and disaggregate them. With this method, employment is derived from the ratio of payroll income to employment for each industry sector. Once this value is derived at the national level, it can be disaggregated to a region according to the proportion of the industry's activity in the local area (Fleming and Toepper 1990).

A third method is applying national multipliers at a regional level. This often yields inappropriate results and tends to exaggerate the findings. For example, an economic impact study of the FMF economy (Alavalapati et al. 1998) determined that the industry composition in the FMF was significantly different from that of Alberta. For example, mining accounted for approximately 27.5% of the value of output in the FMF but only 2.4% of the value of output in the province. Therefore, simply applying provincial multipliers to the subprovincial region will lead to over- or underestimates of the impacts of various changes to the regional economy. Similar problems occur when tourism demand indicators are used to apply national data at a subnational level.

We chose a survey-based approach for our study because of the apparent inappropriateness of applying national estimates to regional economies.

METHODS

We collected data concerning visitor-related employment in the FMF by means of a survey (Appendix 1). Surveys were mailed to of all visitor-driven and visitor-related businesses in the FMF between 3 and 28 July 1998. Because of the variability in the size of businesses, we attempted to contact the entire population, rather than a sample. The list of businesses was obtained from various sources, including the Hinton Chamber of Commerce membership list, the Jasper Tourism and Commerce membership list, Jasper National Park's list of licensed businesses, the Telus Yellow Pages, and tourism-related Internet sites. Each survey was addressed to the business manager or owner. A reminder card was sent out during the week of 17 July 1998. A second survey was sent by mail in the last week of July 1998 to potential participants who had not responded. Businesses that did not respond to either mailing were contacted by telephone in October 1998.

The survey consisted of five main questions. The first question asked how many employees were on staff in a typical year (e.g., 1997), including all part-time and full-time permanent and seasonal staff. Questions 2 and 4 (full-time and part-time, respectively) sought information about the occupation types of the employees, the average number of hours worked per week per person, and whether they worked on a seasonal basis. Because of the wide variety of occupation types in the different businesses, questions 2 and 4 were designed to reflect the occupations associated with particular businesses. To avoid confusion and to simplify the survey for respondents, five booklets were developed, corresponding to the major visitor-related industries (tours and transportation, car repair and service stations, retail, restaurants and hotels, and other). "Other" contained a mixture of business types that did not fit in any of the other four categories. For example, drycleaners and movie theaters were placed in this category. We asked restaurant owners if their employees were chefs or waiters and gas station owners if their employees were gas pump attendants or mechanics. Question 3 asked if there were any part-time employees and served as the transition from question 2 (full-time employee information) to question 4 (part-time employee information). Question 5 asked respondents to estimate the percentage of their business dedicated to visitor-related activity. Many of the businesses were service-oriented and also catered to local residents. Visitor-related employment ratios were developed from these responses.

RESULTS

We attempted to survey a total of 387 businesses: 127 in Hinton and 260 in Jasper. An additional 99 businesses either were closed for the season or could not be contacted. Of the 387 there were 260 usable surveys or an overall response rate of 67.2%.

Visitor-Related Employment Ratios

In the context of this study, visitor-related employment ratios represented the ratio of employment in a business that was derived from visiting consumers as opposed to local consumers. We needed to calculate these ratios because the visitor sector is not distinct but overlaps with other sectors in the economy. For the 387 visitor-related businesses in the FMF, we estimated that a total of 7 701 people were employed in full-time or part-time positions. Of this total, the visitor-related employment, calculated from the employment ratios for the five major visitor-related industries, was estimated at 5 756. (Note that the residual value [7 701 - 5 756 = 1 945] comprises a portion of the

employment of the remaining service sector. The raw data obtained from the survey were adjusted for the response rate to obtain the estimated total number of employees (7 701) accounted for by the 387 businesses. Before the final aggregation, adjustments were made according to the ratio of employees dedicated to visiting consumers versus local consumers. The final totals were aggregated after all adjustments were made). Therefore, the overall employment ratio for the FMF was estimated at 74.7%. This implies that 26.3% of the employment in the businesses surveyed was derived from expenditures by local residents. The importance of visitor-related business varied widely, as reported by the five different business types in the two main towns (Fig. 1). For example, on average, only 19.7% of employment at Hinton service stations and car repair shops was related to visitors, whereas for Jasper area hotels and restaurants 88.9% of employment was dependent on visitors. The visitor-related employment ratio for Jasper area hotels and restaurants was similar to the national ratio reported by Biggs (1994) for the Canadian accommodation industry (86%). In Jasper, all of the industries reported employment ratios greater than 50%, whereas in Hinton only restaurants and hotels, and tours and transportation reported ratios greater than 50%.

Number of People Employed

The number of year-round employees in visitor-related businesses was calculated by multiplying the extrapolated total number of employees by the visitor-related employment ratio (question 5 in the survey) for each of the five different types of industries (Table 1). The number of seasonal employees in visitor-related businesses was calculated using the same method (Table 2).

Figure 2 demonstrates that the visitor sector employed more people than any other sector in the FMF. Not surprisingly, 85.6% (4 928) of all FMF visitor-related employment was found in Jasper (note that this is 85.6% of the total number of visitor

Table 1. Year-round visitor-related employment in the Foothills Model Forest

Industry	All employees		Visitor-related employment ratio (%)	Visitor-related employees		
	Full-time	Part-time		Full-time	Part-time	Total
Hinton						
Tours and transportation	95	16	50.5	48	8	56
Car repair and service stations	46	20	19.7	9	4	13
Retail	204	182	22.5	46	41	87
Restaurants and hotels	518	259	65.7	340	170	510
Other	15	8	40.0	6	3	9
Subtotal	878	485	NA	449	226	675
Jasper						
Tours and transportation	159	35	85.3	136	30	166
Car repair and service stations	41	22	51.0	21	11	32
Retail	580	220	73.5	426	162	588
Restaurants and hotels	1 758	164	88.9	1 563	146	1 709
Other	52	49	65.7	34	32	66
Subtotal	2 590	490	NA	2 180	381	2 561
Overall total	3 468	975	NA	2 629	607	3 236

Note: NA = not applicable.

Table 2. Seasonal visitor-related employment in the Foothills Model Forest

Industry	All employees		Visitor-related employment ratio (%)	Visitor-related employees		
	Full-time	Part Time		Full-time	Part-time	Total
Hinton						
Tours and transportation	16	18	50.5	8	9	17
Car repair and service stations	5	0	19.7	1	0	1
Retail	5	98	22.5	1	22	23
Restaurants and hotels	61	32	65.7	40	21	61
Other	15	3	40.0	6	1	7
Subtotal	301	151	NA	56	53	109
Jasper						
Tours and transportation	659	66	85.3	562	56	618
Car repair and service stations	43	4	51.0	22	2	24
Retail	273	165	73.5	201	121	322
Restaurants and hotels	1 198	328	88.9	1 065	292	1 357
Other	15	55	65.7	10	36	46
Subtotal	2 188	618	NA	1 860	507	2 367
Overall total	2 489	769	NA	1 961	560	2 476

Note: NA = not applicable.

sector positions [5 756]; it does not represent the full-time equivalent number of people employed and could include individuals with more than one job). Of the five industries identified in the study, the largest employers in both Hinton and Jasper were restaurants and hotels, representing between 60% and 70% of total visitor-related employment. The retail industry was the second largest employer in both towns, followed by tours and transportation (Figs. 3 and 4). Although the industry composition was similar between the two towns, there were differences in the composition of employment reported (Figs. 5 and 6). Hinton's visitor sector employment was predominantly full-time, year-round (57.3%), with a very small seasonal component (13.9%). Although full-time, year-round employment was the largest segment for Jasper (44.2%), nearly 38% of visitor-related employment was full-time, seasonal.

Given the large percentage of part-time and seasonal positions, full-time equivalents were also calculated, by dividing the total number of hours worked per week in each industry by the provincial full-time average of 40 hours per week. The total number of "full-time equivalent" visitor-sector positions in the FMF was 3 860 (Table 3). Jasper accounted for approximately 85% (3 266) of these full-time equivalent positions (Table 4). Table 4 summarizes the average number of employees by industry type, town, and employment type.

Visitor-Related Wages

Total wages for the FMF visitor sector were estimated at $69.7 million. This represents approximately 25% of all wages paid in the FMF (Fig. 7). As for the numbers of employees, nearly 85% of visitor-sector wages in the FMF were earned in Jasper. In both communities, restaurants and hotels were the largest sources of wages, followed by retail and tours and transportation (Figs. 8 and 9). The breakdown of visitor-related wages by employment type (Figs. 10 and 11) also reflected the numbers of employees, nearly 80% of total wages in

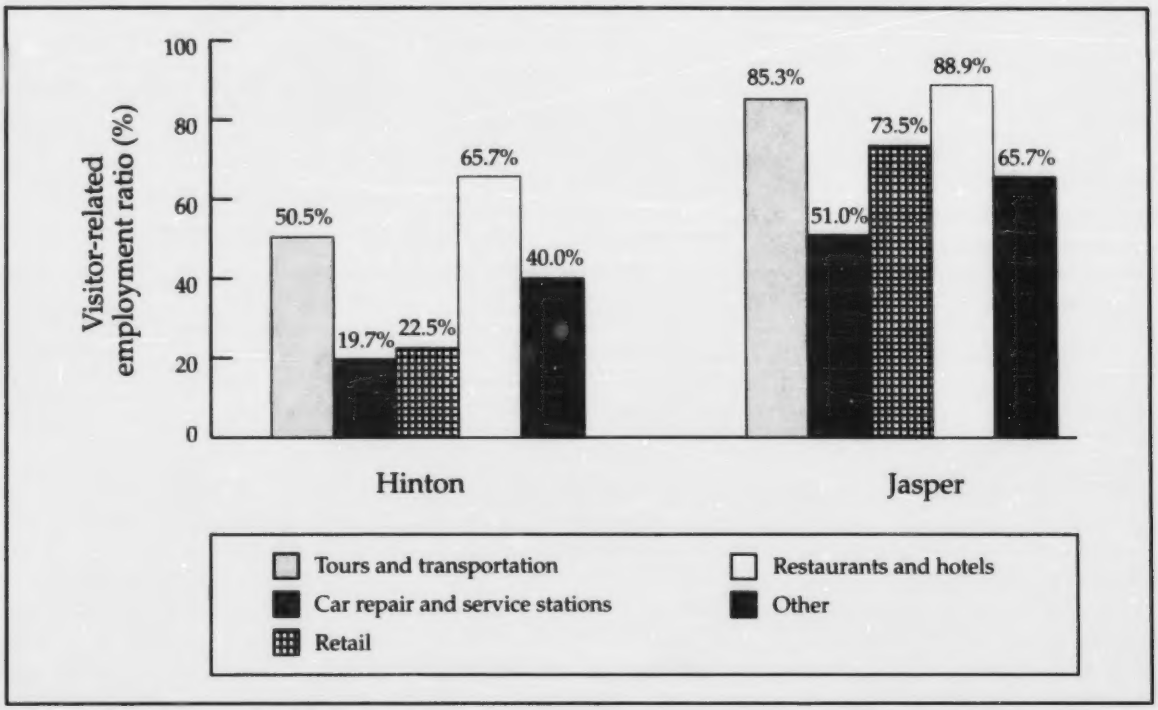

Figure 1. Visitor-related employment ratios by industry and town.

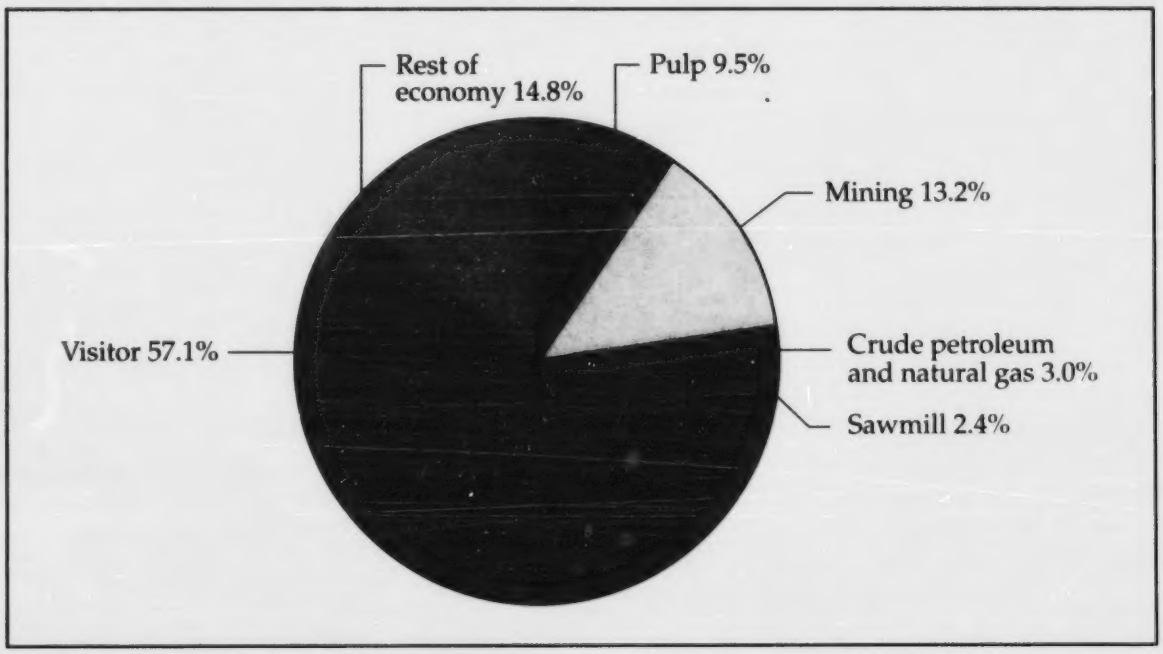

Figure 2. Proportion of workforce employed in various sectors in the Foothills Model Forest.

Hinton being paid to the 57.3% of people who were full-time, year-round employees.

The average weekly wages of full-time employees in the visitor sector were calculated and compared with the average weekly wages for resource-based employees in the FMF and for all employees in the province (Fig. 12). (It should be noted that information about wage rates was not requested directly in the employment survey. This information was derived from hourly wage estimates for the province as found in the 1996 Alberta wage survey [Statistics Canada 1997]). In both towns, all the visitor-related industries had lower average weekly earnings than the provincial average of approximately $600/week (Alberta Labour 1999). The tours and transportation industry was, on average, the highest paying visitor-sector industry in both towns. The car repair and service station industry was the second highest paying visitor-sector industry in Hinton followed by "other", retail, and finally the restaurant and hotel industry. In contrast, the "other" category of employment was the second highest paying visitor-sector industry in Jasper, followed by retail, car repair and service stations, and restaurants and hotels. In both Hinton and Jasper, the restaurant and hotel industry was the lowest paying, perhaps because of the large number of young people attracted to this industry. This finding also suggests that firms in the visitor sector demand less skilled labor. The average weekly wages in the FMF resource sectors ranged from $1 100 to $2 100, approximately four to seven times the average wage in the FMF visitor sector and two to three times the overall Alberta provincial average.

Dividing the total wage bill ($69.7 million) by the total number of full-time equivalent positions yielded an overall average annual wage for the FMF visitor sector of $18 052. However, this calculation underestimates the actual average annual wage of full-time, year-round employees in the visitor sector because the hourly rates of pay for part-time and seasonal employees are lower than those for full-time, year-round employees. Excluding part-time

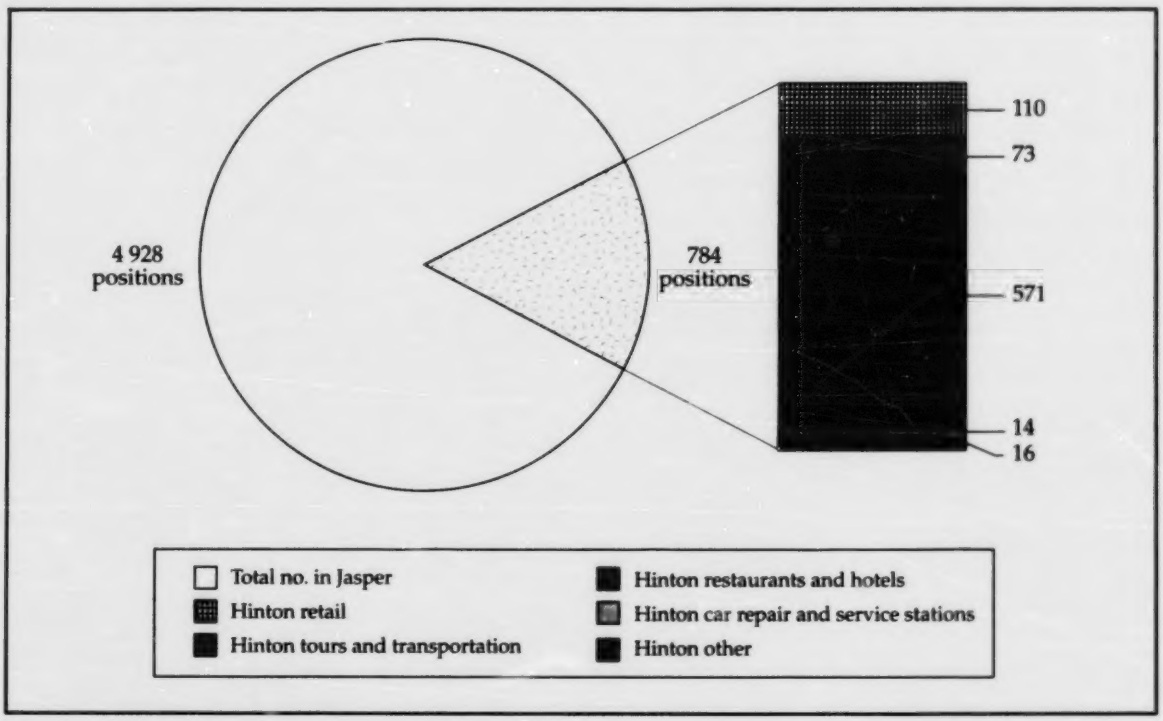

Figure 3. Employment in various industries in the visitor sector (Hinton focus).

and seasonal employees, the average annual wage for full-time visitor sector employees in Hinton was $21 261, slightly higher than the Jasper average of $20 972. One hypothesis for the difference in the average wage between the two areas is that the proportion of young workers may have been higher in the Jasper labor force, which would allow employers to pay lower hourly wages.

It is important to note that the wages reported here are "direct" wages and do not include any form of gratuities, which may form a significant proportion of an employee's income, especially in the restaurant and hotel industry. An ad hoc adjustment of 15% to the average annual wage for the restaurant and hotel industry only yielded a yearly average wage of $23 020 for Hinton and $24 731 for Jasper. Adjustment for gratuities in the restaurant and hotel industry significantly increased the average annual wage for the visitor sector, to $21 862 in Hinton and $21 618 in Jasper. The inclusion of the ad hoc adjustment for gratuities resulted in a slight convergence between the two towns.

Visitor-sector wages were calculated (by industry, town, and type of employment) using provincial hourly wage rates reported in the 1996 wage survey of Statistics Canada (1997). Although regional wages may differ from the provincial averages, the 1996 wage survey represented the best available data for comparison without sacrificing survey simplicity, incurring additional survey cost, or potentially reducing the survey response rate by requesting personal financial information. Tables 5-9 summarize the wage calculations and the total wage bill for the visitor sector in the FMF (including subtotals for each town, industry, and type of employment).

Comparison with Other FMF Sectors

Although the visitor sector accounted for most jobs in the FMF, the dollar contribution of this sector to the economy was weaker. The estimated number of people working in the visitor sector, 5 756, represented approximately 55% of the total FMF

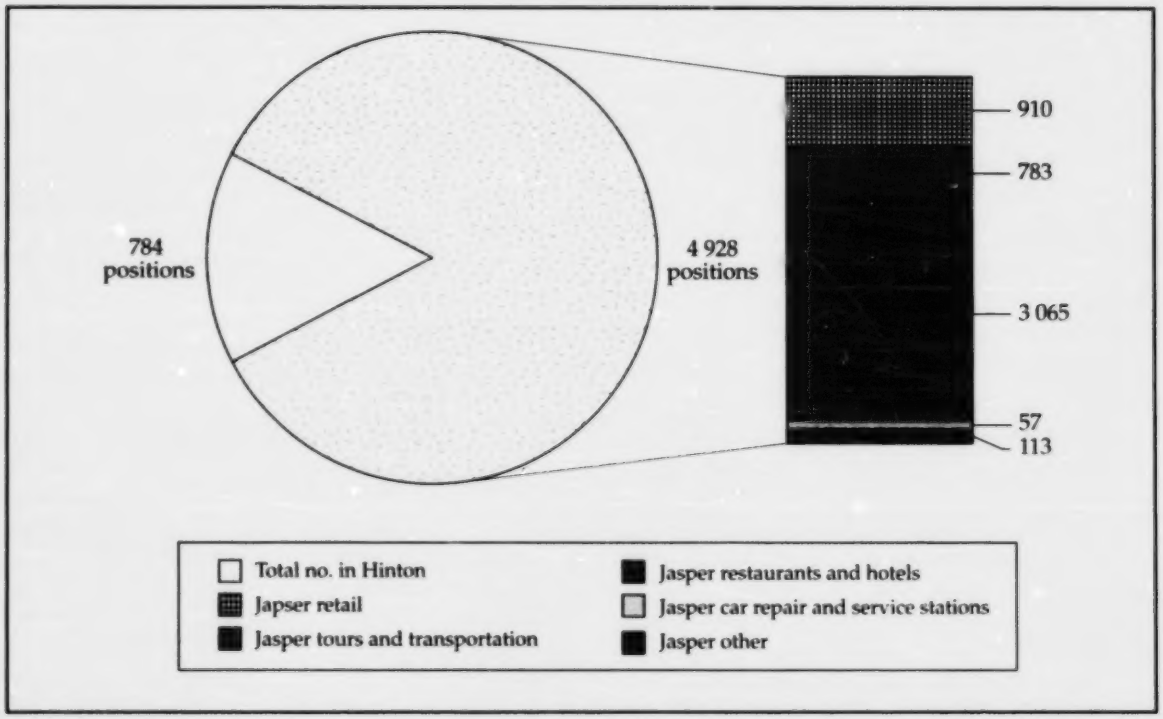

Figure 4. Employment in various industries in the visitor sector (Jasper focus).

labor force at the time of the survey. (This number is actually the number of positions and represents the maximum number of people employed if each individual has only one job. It is more likely that the true number of employees is somewhere between 3 860 and 5 757). The number of full-time equivalent positions represented 37% of the total FMF labor force. For Hinton and the surrounding area (outside Jasper National Park), the visitor sector represented 18% of the total labor force. Not surprisingly, the visitor sector represented 84% of Jasper's labor force. The remaining 16% of Jasper's labor force comprised mostly resident-oriented and transportation services, whereas Hinton's non-visitor labor force consisted of a multitude of industries including resource sectors, manufacturing, and resident services. The visitor sector contributed $69.7 million to the FMF economy in the form of wage income, whereas the combined resource sectors contributed $247 million (Fig. 13). Conversely, the visitor sector accounted for 5 756 (or 3 860 full-time equivalent) positions in the FMF, but the combined resource sectors accounted for only 2 708 positions (Fig. 14).

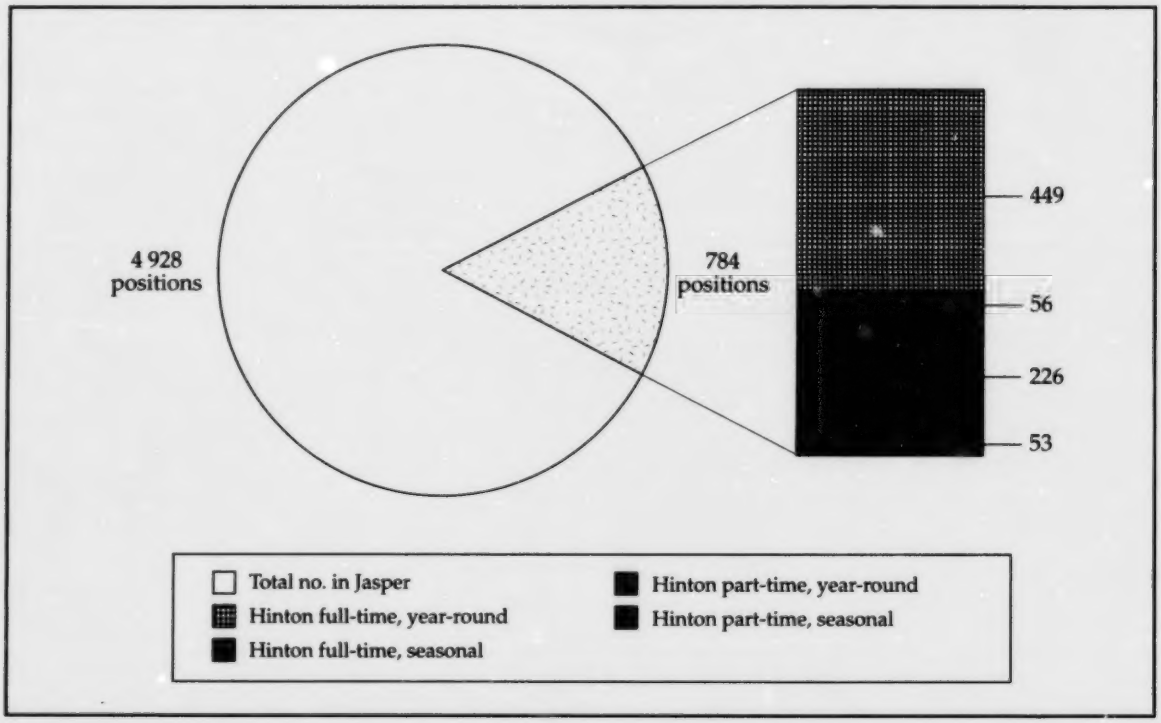

Figure 5. Type of employment in the visitor sector (Hinton focus).

Table 3. Full-time equivalent (FTE) positions in visitor-related employment in the Foothills Model Forest

Industry	Total no. of hours per week			FTE positions		
	Hinton	Jasper	Total	Hinton	Jasper	Total
Tours and transportation						
Full-time	2 054	15 651	17 705	51	391	443
Part-time	243	949	1 192	6	24	30
Car repair and service stations						
Full-time	382	1 121	1 503	10	28	38
Part-time	102	289	391	3	7	10
Retail						
Full-time	1 778	21 822	23 600	44	546	590
Part-time	1 055	4 705	5 760	26	118	144
Restaurants and hotels						
Full-time	14 198	78 430	92 628	355	1 961	2 316
Part-time	3 516	5 346	8 862	88	134	222
Other						
Full-time	357	1 661	2 018	9	42	50
Part-time	59	697	756	1	17	19
Total	23 744	130 671	154 415	594	3 267	3 860

Table 4. Summary of numbers of visitor-related firms and estimated numbers of employees in the Foothills Model Forest

Employer	No. of firms	No. of employees	Average no. of employees per firm
Industry			
Tours and transportation	84	856	10
Car repair and service stations	23	70	3
Retail	134	1 020	8
Restaurants and hotels	133	3 637	27
Other	13	128	10
Total	387	5 711	15
Town			
Hinton	127	784	6
Jasper	260	4 927	19
Total	387	5 711	15
Employment Type			
Full-time	387	4 544	12
Part-time	387	1 167	3
Total	387	5 711	15

Table 5. Total and average wages for full-time visitor-related employment in Hinton

Industry	Total wages ($)	Average wages ($)	
		Yearly	Weekly[a]
Year-round			
Tours and transportation	1 159 453	24 155	465
Car repair and service stations	209 115	23 235	447
Retail	6 023 268	17 715	341
Restaurants and hotels	920 781	20 017	385
Other	127 095	21 183	407
Total	8 439 712	18 797	361
Seasonal			
Tours and transportation	47 362	5 920	468
Car repair and service stations	3 285	3 285	202
Retail	271 003	6 775	345
Restaurants and hotels	6 436	6 436	349
Other	42 473	7 079	272
Total	370 559	6 617	NA

[a] Average weekly wages for seasonal employment depend on number of weeks of employment.
Note: NA = not applicable.

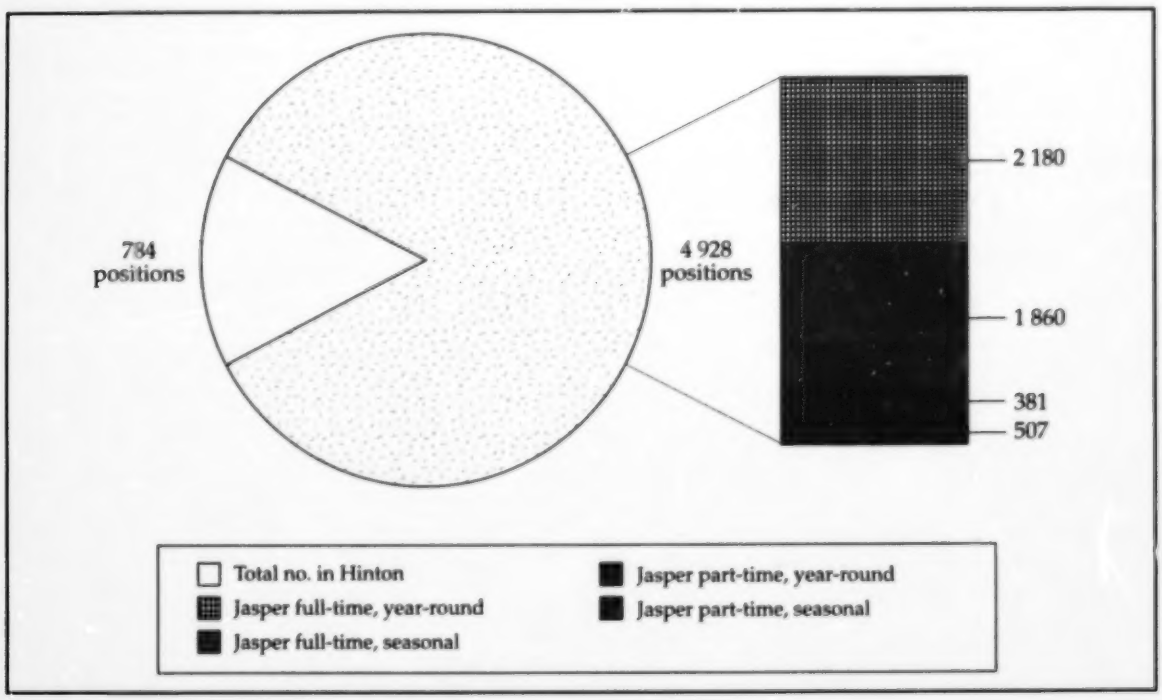

Figure 6. Type of employment in the visitor sector (Jasper focus).

Table 6. Total and average wages for full-time visitor-related employment in Jasper

Industry	Total wages ($)	Average wages ($)	
		Yearly	Weekly[a]
Year-round			
Tours and transportation	3 390 719	25 116	483
Car repair and service stations	404 260	19 250	370
Retail	25 829 154	16 525	318
Restaurants and hotels	9 161 260	21 505	414
Other	763 854	22 466	432
Total	39 549 247	18 142	349
Seasonal			
Tours and transportation	4 718 183	8 395	348
Car repair and service stations	86 571	3 935	255
Retail	8 246 395	7 743	322
Restaurants and hotels	1 910 048	9 503	359
Other	100 456	10 046	376
Total	15 061 653	8 098	NA

[a] Average weekly wages for seasonal employment depend on number of weeks of employment.
Note: NA = not applicable.

Table 7. Total and average wages for part-time visitor-related employment in Hinton

Industry	Total wages ($)	Average wages ($)	
		Yearly	Weekly[a]
Year-round			
Tours and transportation	63 352	7 919	152
Car repair and service stations	37 941	9 485	182
Retail	1 120 917	6 594	127
Restaurants and hotels	351 412	8 571	165
Other	17 518	5 839	112
Total	1 747 233	7 731	149
Seasonal			
Tours and transportation	38 767	4 307	260
Car repair and service stations	ND	ND	ND
Retail	52 696	2 509	151
Restaurants and hotels	60 258	2 739	141
Other	4 372	4 372	170
Total	156 093	2 945	NA

[a] Average weekly wages for seasonal employment depend on number of weeks of employment.
Note: NA = not applicable.
ND = no data available.

Table 8. Total and average wages for part-time visitor-related employment in Jasper

Industry	Total wages ($)	Average wages ($)	
		Yearly	Weekly[a]
Year-round			
Tours and transportation	230 574	7 686	148
Car repair and service stations	90 662	8 242	159
Retail	1 040 894	7 129	137
Restaurants and hotels	1 512 190	9 335	180
Other	194 482	6 078	117
Total	3 068 802	8 056	154
Seasonal			
Tours and transportation	169 940	3 035	179
Car repair and service stations	3 384	1 692	131
Retail	817 133	2 798	117
Restaurants and hotels	355 947	2 942	123
Other	97 445	2 707	168
Total	1 443 849	2 848	NA

[a] Average weekly wages for seasonal employment depend on number of weeks of employment.
Note: NA = not applicable.

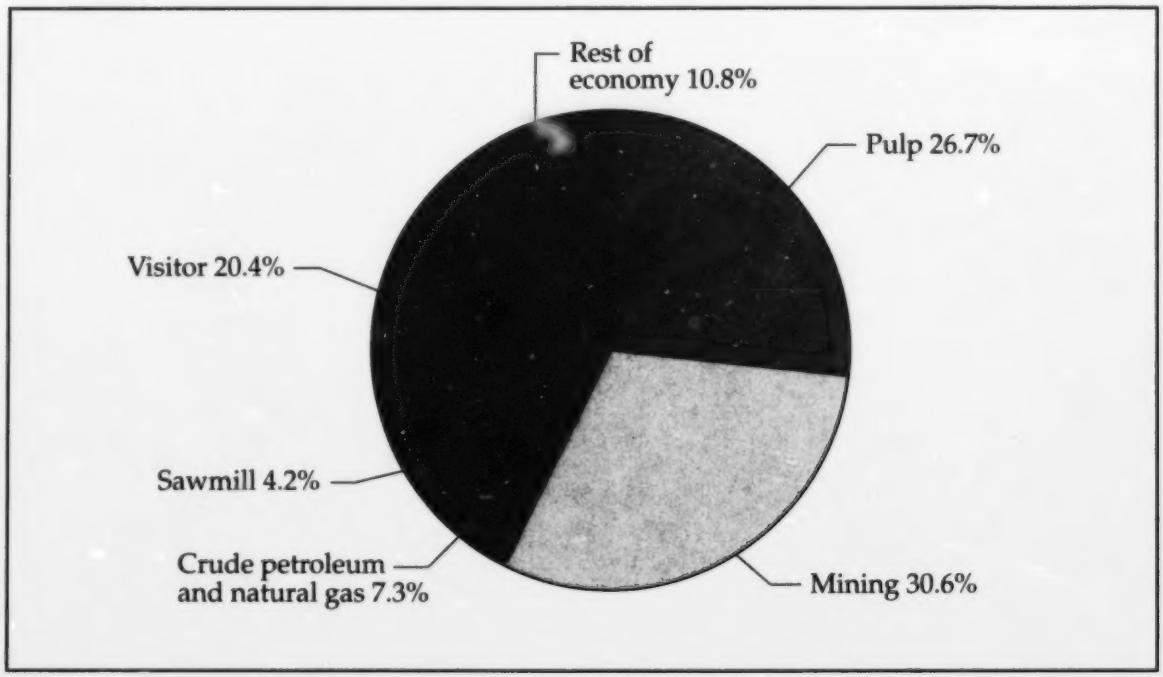

Figure 7. Sectoral contributions to the total wage bill in the Foothills Model Forest.

Table 9. Summary of visitor-related employment wages in the Foothills Model Forest

	Hinton	Jasper	Total
Employment Type			
Full-time, year-round	8 439 712	39 549 247	47 988 959
Full-time, seasonal	370 559	15 061 654	15 432 213
Part-time, year-round	1 591 140	3 068 802	4 659 942
Part-time, seasonal	156 093	1 443 849	1 599 942
Total	10 557 504	59 123 552	69 681 056
Industry			
Tours and transportation	1 308 934	8 509 416	9 818 350
Car repair and service stations	250 341	584 877	835 218
Retail	1 338 887	12 939 445	14 278 332
Restaurants and hotels	7 467 884	35 933 576	43 401 460
Other	191 458	1 156 237	1 347 695
Total	10 557 504	59 123 551	69 681 055

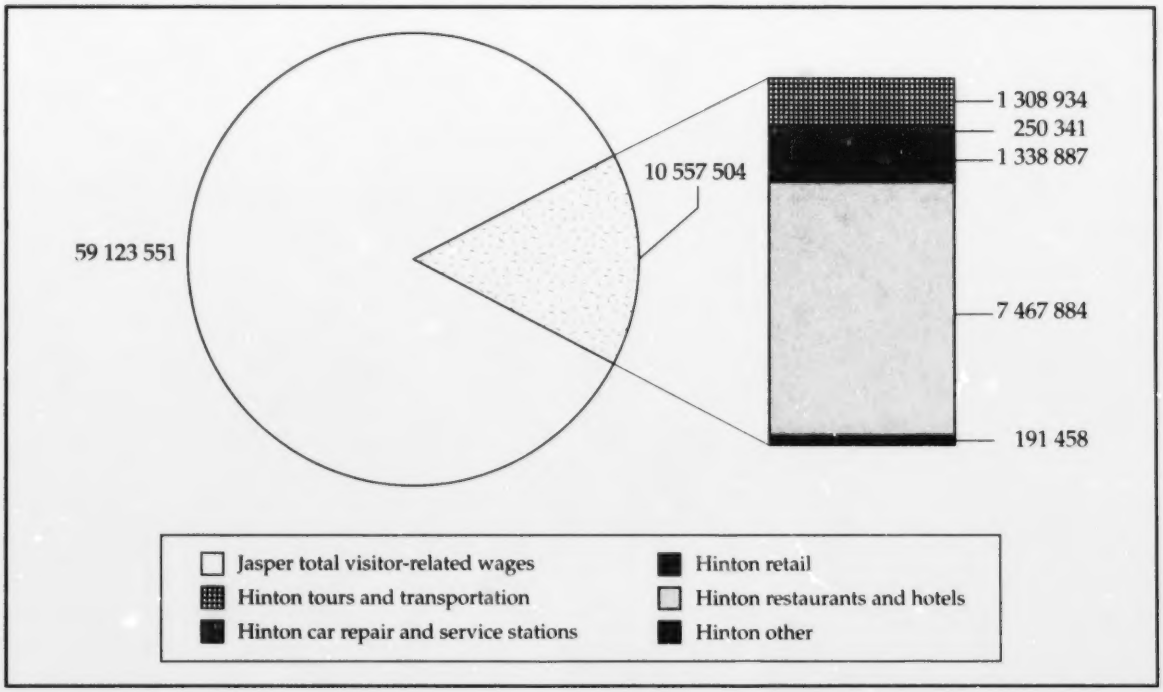

Figure 8. Breakdown of visitor-related wages by industry (Hinton focus).

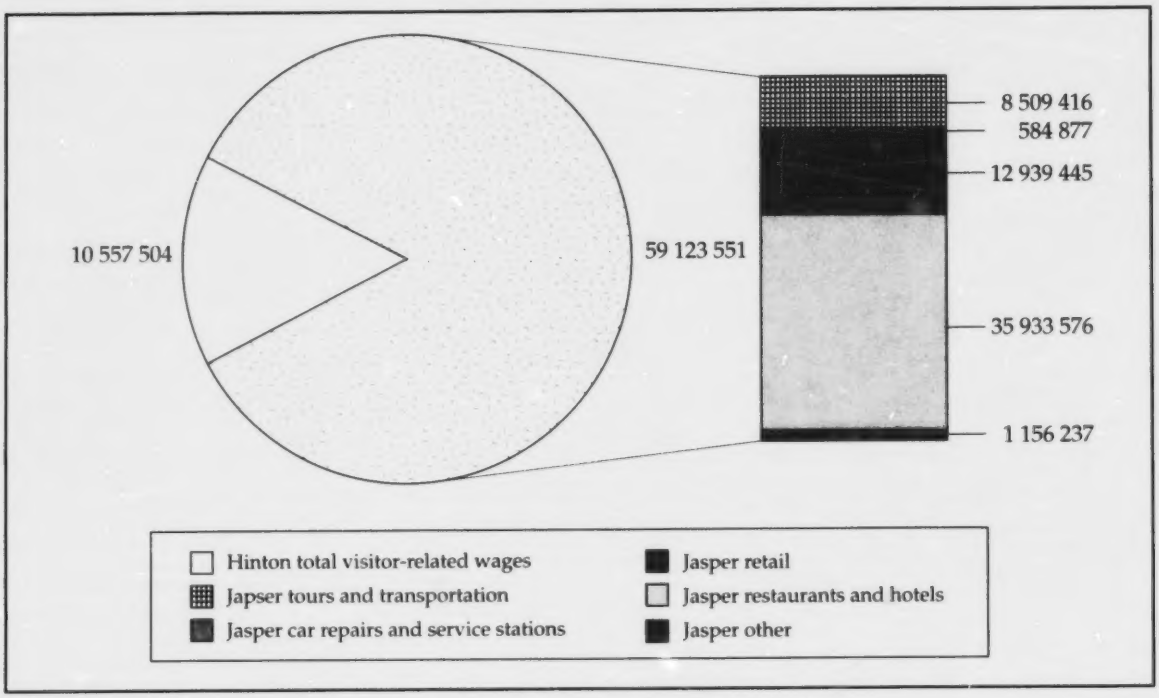

Figure 9. Breakdown of visitor-related wages by industry (Jasper focus).

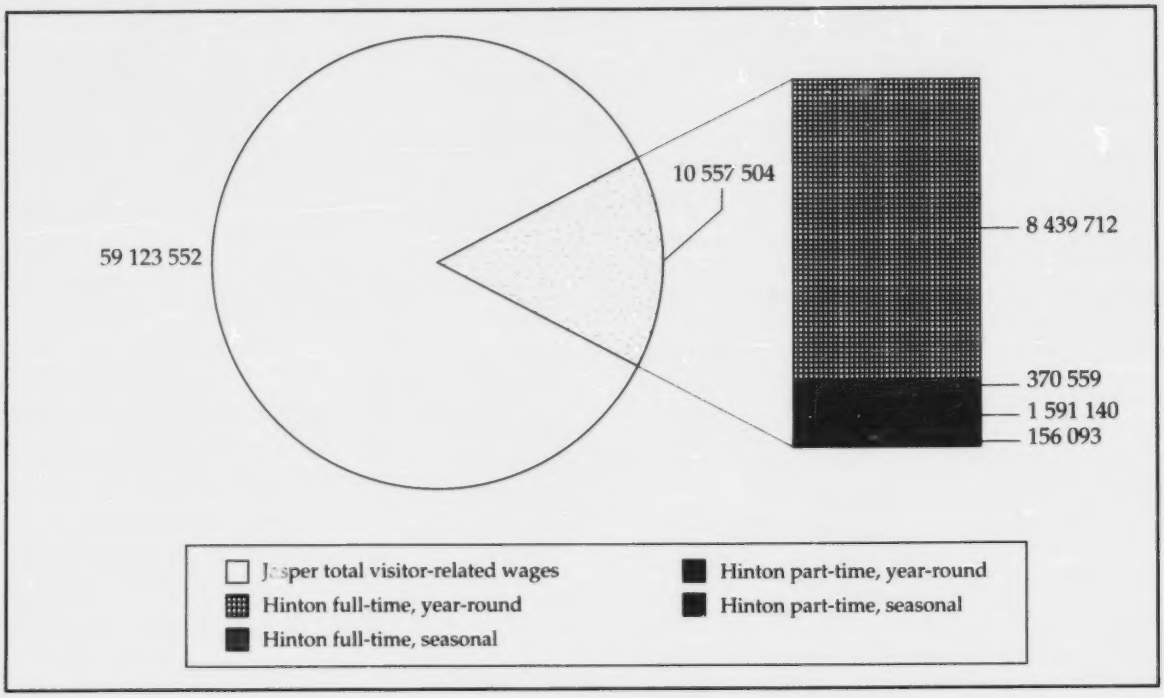

Figure 10. Breakdown of visitor-related wages by employment type (Hinton focus).

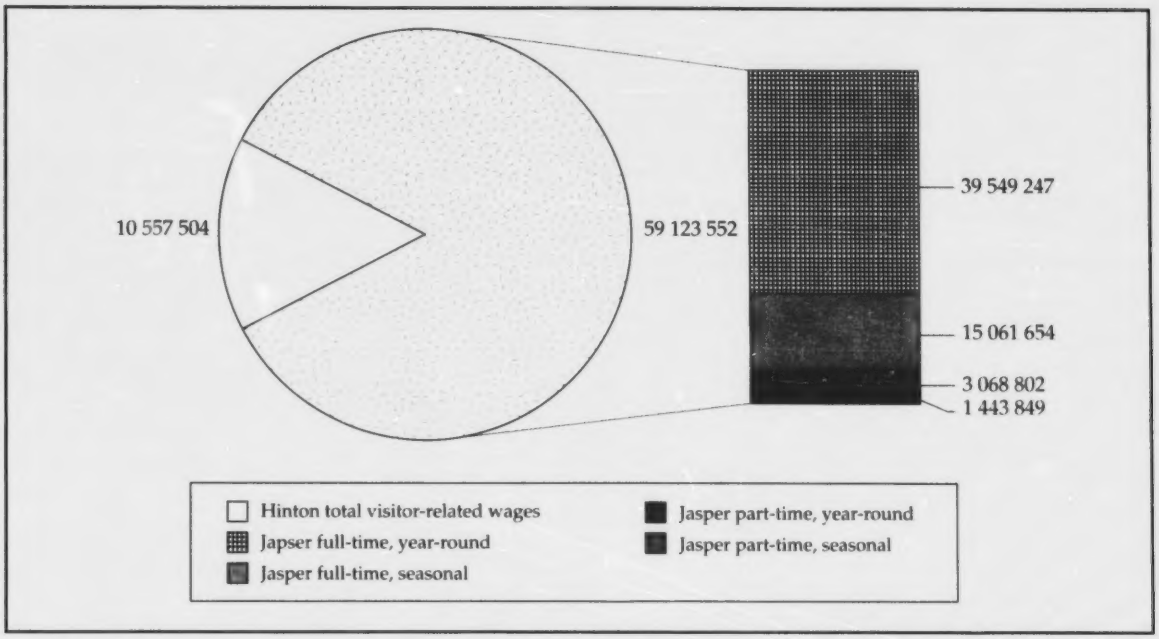

Figure 11. Breakdown of visitor-related wages by employment type (Jasper focus).

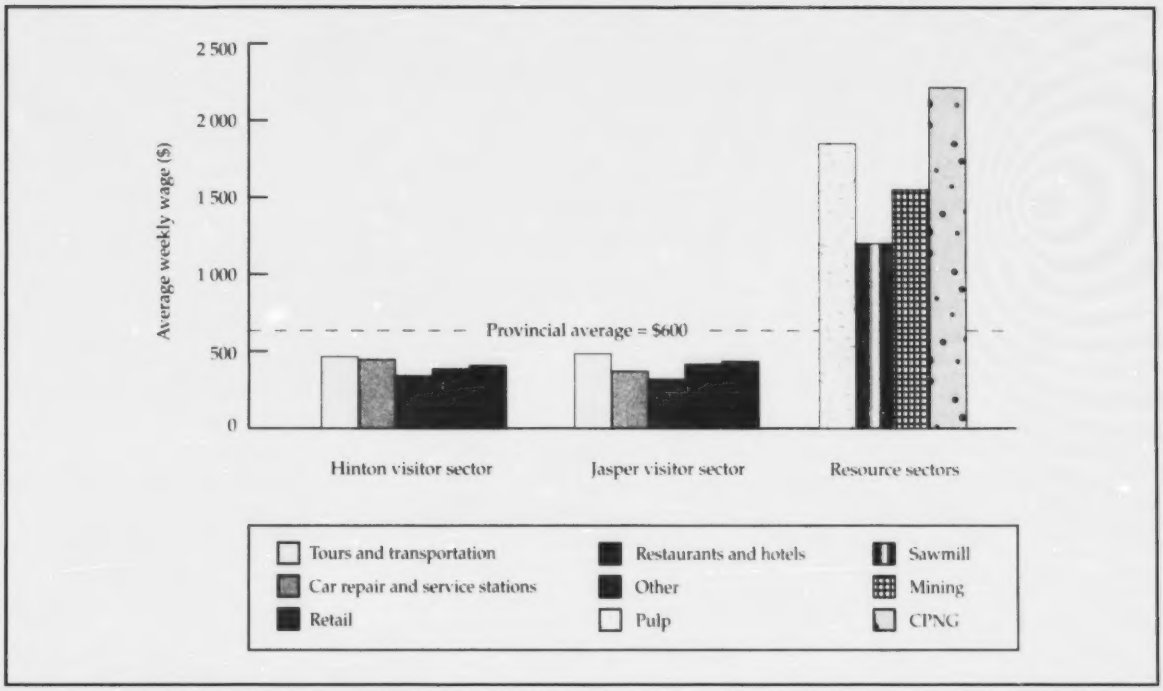

Figure 12. Comparison of average weekly earnings for full-time, year-round employment in the visitor sector and the resource sectors in the Foothills Model Forest. Note: CPNG = Crude petroleum and natural gas.

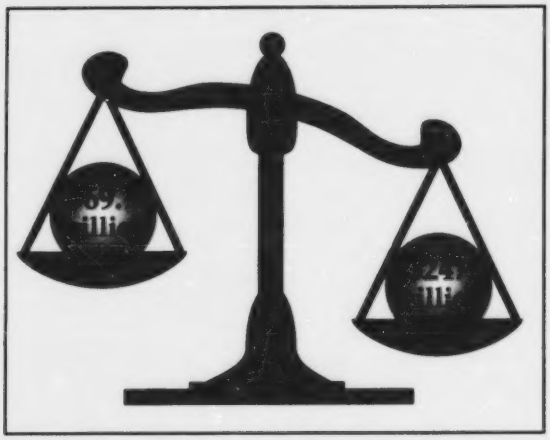

Figure 13. Economic contribution of the visitor and resource sectors to the total wage bill in the Foothills Model Forest.

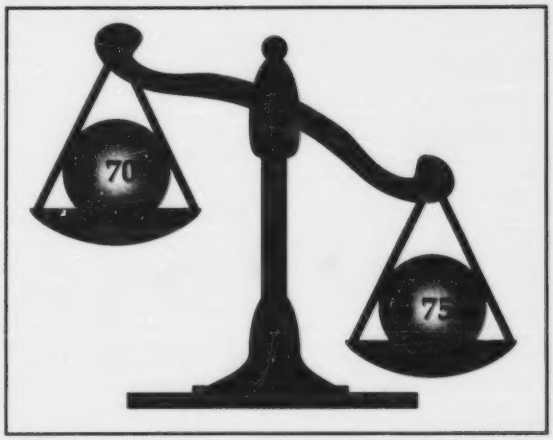

Figure 14. Economic contribution of the visitor and resource sectors to total employment in the Foothills Model Forest.

DISCUSSION AND CONCLUSION

This study's purpose was twofold. First, we attempted to develop a cost-effective and transferable methodology for measuring visitor-related employment in a regional economy. Second, we attempted to understand the economic impact and relative importance of visitor-related employment in a resource-dependent area.

Transferable Methodology

Traditionally, researchers use census data to calculate visitor-related employment. This method has a number of major weaknesses. From the 1996 census occupation categories shown in Table 10, a total of 3 155 possible visitor jobs can be identified in Jasper and Hinton. However, we estimated a total of 5 756 visitor-related positions in the FMF. One potential problem in our study was the inability to account for people holding more than one job, because it is not unusual for people in the service sector to hold more than one job. If our estimates are accurate, the census (by occupation category) underestimated total visitor-sector employment by 45.2%. When employment by census industrial type was used as a proxy for visitor employment (Table 11), total visitor-sector employment was underestimated by 37.5%. Even when full-time equivalent positions are considered, the occupational category was underestimated by 705 positions and the industrial category by 260 positions. However, these two census categories considered both full-time and part-time positions.

A significant portion of the underestimation (using both the occupational and industrial categories) can be explained by the absence of seasonal employment in the census calculations. We calculated a total of 3 235 full-time and part-time year-round positions in the FMF. This value deviated only slightly (by 2.5%) from the census occupation total. However, seasonal employment, especially in Jasper (which accounted for 2 367 positions), was not included in the census calculations.

The third weakness of census-based data is the absence of employment ratios. Hinton's census total 1 495 is particularly misleading because a majority of those occupations service the local economy rather than the visitor economy (which was calculated to be 812 according to census occupational type). When the census total was adjusted by the overall visitor-related employment

Table 10. Estimated visitor-sector employment in the Foothills Model Forest, derived from occupation-type data (Statistics Canada 1997)

Occupation type	Hinton	Jasper	Total
Managers in retail trade and food and accommodation services	185	335	520
Sales and service supervisors	35	95	130
Wholesale, technical, insurance, real estate sales, specialists, and retail, wholesale, and grain buyers	70	10	80
Retail salespersons and sales clerks	230	95	325
Cashiers	125	70	195
Chefs and cooks	135	155	290
Workers in food and beverage services	135	270	405
Workers in protection services	15	20	35
Workers in travel and accommodation, including attendants in recreation and sport	65	185	250
Sales and service workers	500	425	925
Total	1 495	1 660	3 155

Table 11. Estimated visitor-sector employment in the Foothills Model Forest, derived from industry-type data (Statistics Canada 1997)

Industry type	Hinton	Jasper	Total
Retail trade	815	405	1 220
Accommodation, food, and beverage services	610	1 245	1 855
Other services	295	230	525
Total	1 720	1 880	3 600

ratio for Hinton (45.7%), only 683 visitor-related positions were identified, an overestimation of 54.3%. According to the census occupation data, visitor sector employment in Jasper was estimated at 1 660, an underestimation of 3 267 or 66.3%. Similarly, the industrial category estimated 1 880 positions, an underestimation of 3 047 or 61.8%.

Impact on the Local Economy

Visitor-sector employment, at least in terms of the number of people employed, dominates the FMF labor market. However, it is clear that most visitor-sector jobs pay less than the region's resource sectors and indeed the provincial average. The Hinton labor force was not dominated by visitor-sector employment to the same extent as Jasper's. In addition, the relatively large contribution of visitor-sector employment in the aggregate FMF region was due primarily to the presence of the national park. This suggests the potential for growth of the visitor sector in Hinton as demand spills outside park boundaries Private decision makers involved in visitor-driven and visitor-related industries should remain optimistic about growth opportunities outside park boundaries. This growth potential may be further magnified by the possibility of additional restrictions on the use of the park. The results of this study may be useful to decision makers in the planning and implementation of regional development policies.

The contribution of visitor-sector wages to the regional economy is overshadowed by the wage contribution of the resource sectors. This finding confirms the expectations and findings of previous studies, which have suggested that wages are low in tourism industries, and raises concerns about the quality of employment associated with visitor-sector industries. A comparison of average weekly wages in the visitor sector with those in the resource sectors with those gap between the two. The creation of new employment opportunities in the visitor sector will have a lesser effect on economic development than new employment opportunities in the resource sectors. However, this finding should be treated with caution because of the lack of regional-level wage data for the visitor sector and the lack of information on gratuities.

Although this study has implications with respect to the economic aspects of regional development and employment, it fails to address the issues of worker satisfaction and the quality of employment opportunities in various sectors. Areas for future study include surveys of worker satisfaction, creation of an employment quality index by which to examine resource-dependent communities and their economic development, and the collection of regional-level wage information.

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